



DESCO INDUSTRIES, INC. TECHNICAL BULLETIN TB-7055

Statguard® Low-VOC Dissipative Floor Finish Application and Maintenance Instructions



Made in the
United States of America



Figure 1. Statguard® Low-VOC Dissipative Floor Finish:
5 gallon bag-in-box

Description

Statguard® Low-VOC is a static dissipative zinc free floor finish that will convert non-ESD flooring to an ESD protective floor. Statguard® Low-VOC floor finish will protect and maintain ESD permanent flooring such as vinyl composition tiles, sheet vinyl and rubber tiles. Statguard® Low-VOC floor finish provides a resistance range (1×10^6 to $< 1 \times 10^{10}$ ohms) and low charge generation (less than 100 volts) that meets or exceeds ANSI/ESD S20.20 required limits as an ESD protective floor or as a personnel grounding method. Statguard® Low-VOC is made with low volatile solvents in order to meet the requirements of CARB and other regional VOC regulations. Statguard® Low-VOC is free of zinc, VOCs, APEs, and other hazardous ingredients. This is important to users being monitored for zinc output, or those desiring to reduce the exposure of dangerous chemicals to workers and the environment. The coating resists abrasion and scuffing in order to maintain ESD performance and appearance. Statguard® Low-VOC is packaged in bag-in-boxes and lot coded for quality control.

SAFE WALKING SURFACE

UL Listed as slip resistant. Statguard® Low-VOC Floor Finish provides superior electrical properties along with a safe walking surface. Underwriters Laboratory has evaluated Statguard® Low-VOC Floor Finish and tested it to their slip resistance standards. To ensure employee safety and to mitigate user's liability exposure, it is important to use floor finish that has been successfully tested for slip resistance, and is properly installed and maintained.

General Guidelines

For maximum effectiveness Statguard® Low-VOC Floor Finish should be used as part of a comprehensive maintenance program that includes use of other Floor Care products such as Statguard® Floor Stripper and Floor Cleaner, and Burnishing Restorer. Proper attention paid to the application and maintenance of Statguard® Low-VOC Floor Finish will result in increased durability and enhanced ESD control performance.

NOTE: Statguard® Dissipative Floor Care products do not have a set life span. The chemicals are not known to degrade over time when stored at the proper temperature conditions as stated in the Safety Data Sheet. We also recommend that these products be stored in their original containers and be sealed when not in use.

Grounding (Typically Not Required)

Conventional grounding practices, such as electrically connecting Statguard® Low-VOC Floor Finish to protective earth or equipment ground is required only for applications of floor finish that are less than 50 square feet. For applications that are greater than 50 square feet, grounding is not required. The capacitance of large installations of Statguard® Low-VOC Floor Finish is vastly greater than the capacitance of the human body. This enormous difference in capacitance allows the treated floor to act as a theoretical charge reservoir or natural ground. The capacitance and surface resistance of Statguard® Low-VOC Floor Finish treated floors will decay a 5000 volt charge to 0 in less than 0.1 seconds when tested to Federal Test Method Standard 101C, Method 4046. Statguard® Low-VOC Floor Finish exceeds industry accepted static decay requirements.

ESD footwear needs to be worn to ground personnel. It is recommended that foot grounders be worn on both feet. For additional information call customer service.

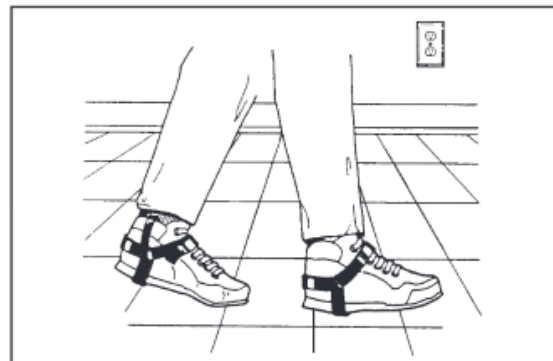


Figure 2. Personnel grounding, foot grounders should be used on ESD protective flooring



Floor Finish Application

FLOOR PREPARATION - SURFACE

CONCRETE

Two measures are used to determine a good concrete surface for Statguard® Low-VOC Floor Finish:

1. The surface should be sealed.
2. The surface should be cleaned of all contaminants.

SURFACE CLEANING

Surface to be finished should be clean, dry, and smooth. Heavy dirt or grease build up should be removed with a stripper or degreaser. DO NOT use Statguard® Low-VOC Floor Finish on surfaces colder than 45° F.

SURFACE SEALING

Surface preparation is absolutely critical for porous materials such as concrete. Proper preparation simplifies application, increases durability and ensures proper performance. Industrial grade polyurethane, vinyl or acrylic base sealers are recommended to seal highly porous floors before the application of Statguard® Low-VOC Floor Finish. Enamel sealers can be used for bare wood, while enamel undercoat with rust inhibitors are recommended for metal surfaces.

New concrete should be allowed to cure for 60 days before sealing. Concrete surfaces do not all have the same physical and chemical properties. They vary widely due to the variety of ways concrete can be formulated, poured or finished.

There are several methods to prepare problem concrete. Each method depends on the condition of the concrete. Cleaning methods range from: sweeping, vacuuming, wire brush, air-blasting, water jet, steam cleaning, or stripping. Concrete surfaces are very porous and should be properly sealed prior to the application of Statguard® Low-VOC Floor Finish. Adhesion properties for the concrete sealer can be increased by profiling or rouging the concrete surface through acid etching, rotary drum sanding, scarifying or mechanically scratching the surface. Always follow manufacturer's recommendations when applying. The concrete sealer will reduce the porosity of the concrete and provide a smooth level surface for the finish. The sealer also provides a barrier to prevent any water migrating up through the surface of the concrete.

No Sealer Application: Sealing is recommended for increasing coverage and correcting problem concrete surfaces that are not dry or free from grease, oil, etc. If the subfloor surface is dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other foreign materials it may be suitable to applying Statguard® Low-VOC Floor Finish directly onto the concrete.

COVERAGE

Statguard® Low-VOC Floor Finish covers approximately 2000 square feet per gallon per coat on smooth surfaces. Coverage is less on coarse, textured, or porous surfaces.

DRY TIME

One hour minimum between first and second coat. After second coat it is recommended that Statguard® Low-VOC wait six hours before allowing light traffic, 12 hours before regular traffic and 72 hours before heavy equipment and floor truck traffic. Wait seven days before all wet maintenance, buffing, or burnishing. Premature wet maintenance will negatively effect film formation and electrical properties. At higher relative humidity levels, a longer drying time may be necessary.

NOTE: Properly screw cap back on bag-in-box packaging after each use.

STATGUARD® FLOOR STRIPPER



Figure 3. Statguard® Floor Stripper: 5 gallon bag-in-box

Stripping the floor is recommended for first time application of any finish. New tiles are supplied with a protective factory finish that protects during installation but should be stripped away prior to any floor finish application. Properly maintained floors should be stripped one to two times annually, depending on traffic and buildup of contaminated finish. Statguard® Floor Stripper is recommended to strip multiple layers of floor finish or coatings.

EQUIPMENT NEEDED

- Push broom
 - Single pad 175 RPM stripping machine (with black or brown stripping pad)
 - Mops
 - Statguard® Floor Stripper
 - Buckets
 - Wet vacuum
 - Statguard® Neutralizer
1. Always use in a well ventilated area. Wear eye protection such as splash goggles and impervious type protective gloves.
 2. Sweep away all loose dirt and contaminants.
 3. Dilute Statguard® Floor Stripper 5:1, five parts warm water to one part stripper.



4. Apply stripper liberally to around 200 square foot area in need of stripping. Using a clean string mop to apply diluted stripper, uniformly distribute the solution. Let the solution stand for three to eight minutes. Do not allow it to dry.
5. Scrub the treated floor with the stripping machine at 175 rpm using a stripping pad soaked in stripping solution.

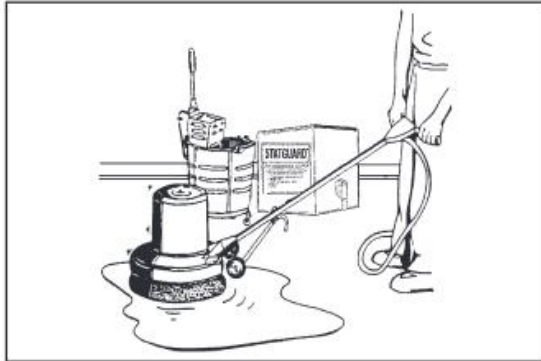


Figure 4. Stripping floor

6. Pick up the loosened floor finish using a wet vacuum or mop. Repeat steps three and four as required.

Use neutralizer item 46022 to rinse and bring the pH level down to pH level 7.0 (neutral). Using neutralizer reduces the number of rinse steps needed to get the pH level of the floor to pH level 7.0 (neutral).

7. Thoroughly rinse the floor two to three times with clean water to remove all spent chemicals.

NOTE: If rinsing is not completed thoroughly, the remaining chemicals will soften new finish as it is applied, thereby diminishing its durability.

8. If neutralizer is not used thoroughly rinse the floor three to four times with clean water to remove all spent chemicals.

NOTE: If rinsing is not completed thoroughly, the remaining chemicals will soften new finish as it is applied, thereby diminishing its durability. Be sure to check the pH level of the floor is 7.0 (neutral) before proceeding. It is recommended that the stripped surface be tested after rinsing to ensure that high pH residues do not remain. Some high pH strippers will leave a residue behind even after several rinses. A high pH can affect the floor finish curing time as well as other properties of the finish. To test for high pH residue, test either the rinse water or the floor using either a pH measurement instrument or a piece of pH indicating litmus paper. A safe pH level will be 7.0 (neutral).

9. Inspect floor to be sure all stripper and old finish as been removed. Any shiny spots on the floor indicate old finish has not been removed. Allow floor to dry thoroughly after final rinse before applying any new floor finish.

For additional usage information and a SDS sheet on Statguard® Floor Stripper, ask for Technical Bulletin TB-7026

STATGUARD® LOW-VOC FLOOR FINISH



Figure 5. Statguard® Low-VOC Dissipative Floor Finish: 5 gallon bag-in-box

Due to the high percent solids of Statguard® Low-VOC Floor Finish (23%) it is recommended that two coats be applied in the initial application. In high traffic applications three coats may be required (do not apply more than two coats in 24 hours unless humidity is greater than 30%). Two coats of Statguard® Low-VOC 23% solids finish is similar to three coats of an 18% solids finish and three is equivalent to four coats of 18% solids finish.

NOTE: It is not recommended to put down more than three coats of Statguard® Low-VOC Floor Finish in 24 hours. For low humidity application, less than 30% RH, do not apply more than two coats in 24 hours.

FLAT MOP PROGRAM (OPTIONAL)



Figure 6. Applying floor finish with Flat Mop (optional)

1. Flat mop can come with a refillable dispenser, that allows for easier determination of proper amount of Floor Finish / sq. ft. For example, if the floor finish application rate is 1 gallon / 2000 sq. ft., a 32 oz. dispenser holds 500 sq. ft. of finish.



- Flat mopping systems reduce workers fatigue as they are lighter in weight. Roughly three pounds when wet vs. the traditional cotton loop mops which can weigh eight to ten pounds when wet.
- The Flat mop with dispenser is faster, as one does NOT need to constantly "dip the mop and squeeze out excess".
- The flat mop doesn't hold as much residual finish as a string mop, so the application of the proper amount of Floor Finish, is more precise.

EQUIPMENT NEEDED

- Statguard® Low-VOC Floor Finish
- Clean rayon (or cotton blend) mop dedicated to Statguard® Low-VOC Floor Finish use only
- Clean bucket, and wringer dedicated to Statguard® Low-VOC Floor Finish use only
- Flat mop (Optional)

If Statguard® Low-VOC Floor Finish freezes, allow it to thaw to 70°F before application.

- Always use in a well ventilated area. Wear appropriate eye protection such as splash goggles and impervious type protective gloves.
- Pour Floor Finish into a clean bucket. Apply using a damp clean rayon or cotton mop. Make sure to use a dedicated mop, do not use a mop that has been used to strip or mop floors. Coat the floor uniformly, avoiding excessive foaming.
- Allow the first coat to dry for a minimum of 60 minutes, and then apply the second coat.
- If it is for a high traffic application and the humidity is above 30% RH, repeat step three for the third coat.
- Allow last coat to dry overnight or minimum of six hours before permitting any kind of floor traffic on the newly coated area. An overnight curing time is preferred.
- Allow minimum of seven days of drying time before performing any wet maintenance (spray buffing, burnishing, and floor cleaner) on newly coated floor. Premature wet maintenance will negatively effect film formation and electrical properties.

Floor Finish Maintenance

Preventative maintenance is important to maintain the electrical properties and appearance of the finish. The use of carpet runners and tack mats are suggested when areas of high dirt or other contaminants are leading onto Statguard® Low-VOC Floor Finish areas. Although wet maintenance can be performed after seven days of drying, Statguard® Low-VOC Floor Finish electrical properties can last three to four months with regular dry maintenance.

DRY MOP PROGRAM

Keep the floor surface clean. Use an untreated dust mop or push broom daily to remove accumulated dirt and insulative contaminants.

STATGUARD® DISSIPATIVE FLOOR CLEANER



Figure 7. Statguard® Dissipative Floor Cleaner: 5 gallon bag-in-box

Statguard® Dissipative Floor Cleaner is formulated with dissipative agents that will rejuvenate and improve the static dissipative properties of floors treated with Statguard® Low-VOC Floor Finish. Statguard® Dissipative Cleaner effectively cleans without leaving behind any harmful residue that can dull the surface or impede dissipation properties. Statguard® Floor Cleaner is a non-alkaline detergent with a neutral pH, which requires no rinsing. Use the following procedure to clean treated floors with Statguard® Floor Cleaner. This product is also recommended for use on conductive floor tile and epoxy.

CLEANING SCHEDULE

Heavy to moderate traffic floors should be cleaned once a week or as needed. Light traffic floors should be cleaned as needed. Allow the floor finish to dry for at least seven days before performing any wet maintenance.

EQUIPMENT NEEDED

- Push broom
 - Mop (dedicated to Statguard® Floor Cleaner use only)
 - Buckets
 - Statguard® Dissipative Floor Cleaner
- Always use in a well ventilated area. Wear appropriate eye protection such as splash goggles and impervious type protective gloves.
 - Dry mop the surface to be cleaned.
 - Dilute Statguard® Dissipative Cleaner 10:1, two quart of cleaner concentrate to five gallons of clean water.



4. Thoroughly shake the cleaner concentrate container before pouring the cleaner into the bucket. Use a clean untreated mop (dedicated to Statguard® Floor Cleaner use only) to damp mop the area. Wring out excess fluid so mop is not dripping and do not flood a treated floor with water. Do not use scrubbing machine to clean the floor.
5. Allow 20 to 40 minutes drying time before walking on the cleaned area.

Clean only with Statguard® Floor Cleaner, do not damp mop with plain water or with a high alkaline or high residue cleaner. Using harsh detergents can damage a treated floor's static dissipative properties, or can degrade the finish.

For additional usage information and a SDS sheet on Statguard® Floor Cleaner, ask for Technical Bulletin TB-7041.

STATFREE® DISSIPATIVE SPRAY BUFF



Figure 8. Statfree® Dissipative Spray Buff

Regular spray buffing will help to maintain floors treated with Statfree® Dissipative Spray Buff at peak performance and appearance. Spray buffing with Statfree® Dissipative Spray Buff will remove light surface soil while reviving the electrical properties of the treated surface.

SPRAY BUFF SCHEDULE

Heavy to moderate traffic floors should be spray buffed once a week or as needed. Light traffic floors should be spray buffed as needed. Allow the floor finish to dry for at least seven days before spray buffing.

EQUIPMENT NEEDED

- Push broom
 - 175-1500 RPM buffing machine (with a white or beige pad)
 - Statfree® Dissipative Spray Buff
1. Always use in a well ventilated area. Wear appropriate eye protection such as splash goggles and impervious type protective gloves.

2. Sweep away all loose dirt and contaminants. Do not spray buff on a dirty floor. If the floor is soiled, first perform the cleaning procedure using Statguard® Floor Cleaner.
3. Lightly spray a small area with the Statfree® Dissipative Spray Buff Treat a small area at a time.
4. Buff the sprayed area at 175-300 RPM using a red pad or at 1000-1500 RPM using a white or beige pad. Buff area until clean and glossy. All black marks and scuffs should be removed. The area must be buffed while in a liquid state.

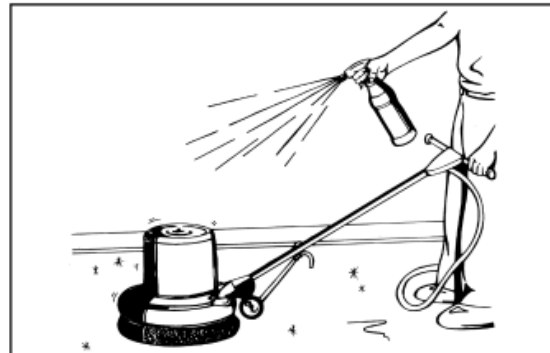


Figure 9. Spray buffing with Statfree® Dissipative Spray Buff

5. After high speed buffing, dry mop the entire area with an untreated mop.

STATFREE® BURNISHING RESTORER



Figure 10. Statfree® Dissipative Burnishing Restorer

Statfree® Burnishing Restorer is a ready to use formulation that renews the unique protective properties and gloss of Statguard® Low-VOC Floor Finish with less of an investment in time, effort and money. Static decay properties, surface resistance characteristics and durability of the floor finish can be extended dramatically. The Restorer extends the re-coat cycle and significantly reduces the cost of maintenance.



BURNISHING RESTORER SCHEDULE

Heavy to moderate traffic floors should be treated two to four times per month. Light traffic floors should be treated once a month or as needed.

EQUIPMENT NEEDED

- Push broom
 - 1000-1500 RPM burnishing machine (with a white or beige pad)
 - Statfree® Dissipative Burnishing Restorer
1. Dry mop the coated area to remove loose dirt from coated floor.
 2. Use a clean untreated string mop to apply a thin coat of restorer onto floor. Allow it to dry 20 to 40 minutes.
 3. Burnish the coated area with a 1000 to 1500 RPM rotary machine and a clean beige burnishing pad.
 4. Dry mop the entire burnished area again.

For additional usage information and a SDS sheet on Statfree® Burnishing Restorer, ask for Technical Bulletin TB-7044.

Statguard® Low-VOC Dissipative Floor Finish - Physical Properties

Base	No-zinc Acrylic Polymer
Description	Aqueous Acrylic Emulsion, Non hazardous material as defined in (29 CFR 915.4)
Color	White liquid, dries clear
Density	8.56 lbs/gal
Freeze/Thaw Stability	Exc. 3 Cycles @ -10°C
pH	7.0 - 8.0
Slip Resistance	UL Listed* > 0.5 SCOF
% Solids	23%
Solvents	Water
Thermal Stability	Exc. 50°C/1 month
Viscosity	10 cps
Working Humidity	Range 20 - 70% RH

*Underwriters Laboratory (UL) tested and listed as slip resistance only. UL Classification No. SA6524.

RoHS 3, REACH, and Conflict Minerals Statement

See the Desco Industries RoHS 3, REACH, and Conflict Minerals Statement:

<http://www.descoindustries.com/ROHS.aspx>

Desco Industries Limited Warranty

See the Desco Industries Limited Warranty:

<http://www.descoindustries.com/Warranty.aspx>

Statguard® Low-VOC Dissipative Floor Finish is available from these Desco Industries brands:

DESCO

for service and support in North America

2.5 Gallons	10550
5.0 Gallons	10551
55 Gallons	10552

STATGUARD FLOORING

for service and support in North America

2.5 Gallons	46024
5.0 Gallons	46025
55 Gallons	46026

DESCO EUROPE

for service and support in United Kingdom and Europe

19 Litres	220528
-----------	--------

DESCO ASIA

for service and support in Asia

9.5 Liters	10550
------------	-------